II. Remarks In Response to the Office Action

A. General Remarks

Claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 are pending. No claims have been added, cancelled, or amended with this Reply.

In responding to the Examiner's prior art rejections, Assignee here only justifies the patentability of the independent claims (*i.e.,* claims 1, 16, and 31). As the Examiner will appreciate, should these independent claims be patentable over the prior art, the dependent claims would also necessarily be patentable. Accordingly, Assignee does not separately discuss the patentability of the dependent claims, although Assignee reserves the right to do so at a later time if necessary.

B. Claim Rejections - 35 USC § 102

Claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 stand rejected under 35 U.S.C. 102(a) as being anticipated by Fangzhe Chang & Vijay Karamcheti "Automatic Configuration and Run-Tim Adaptation of Distributed Applications" (hereinafter Chang).

Assignee respectfully traverses the contention that Chang anticipates the listed claims because Chang does not teach or suggest each claimed element called for in independent claims 1, 16, and 31. Independent claims 1, 16, and 31 are directed to automated database management. Management criteria are associated with a ***database*** to manage ***database objects***, and statistics relating to operation of the database are collected. Based on the collected statistics, ***characteristics of the database objects*** are determined. Based on the management criteria and the determined characteristics of the database objects, ***actions to be performed on one or more database objects are determined to modify the one or more database objects***. These ***determined actions are performed on the database objects to modify them***, and the results are monitored. Based on the results, the management criteria are reconfigured.

In contrast to Assignee's claims and the characterization in the Office Action, Chang is directed to the automatic configuration and run-time adaptation of a distributed application and is not directed to automated management of a database. Thus, the Examiner's attempt to apply

particular portions of Chang's disclosure against elements of Assignee's claims fails because Chang is directed to an application whereas Assignee's claims are directed to a database and database objects. Despite this fundamental difference, the Examiner has cited particular portions of Chang in an attempt to show that Chang discloses each element of Assignee's claims. As Assignee points out below, however, each of the cited portions of Chang fails to disclose the claimed elements they are purported to provide against Assignee's claims.

First, the Examiner contends that Chang discloses associating management criteria with a database to manage database objects at page 13, ¶ 3-6. (Office Action at pg. 2.) This is an incorrect characterization of Chang. Chang clearly indicates that the disclosure of Chang is directed to "distributed applications" and merely discusses forms of information for a tunability interface to tune such an application (*see* pages 14 and 15, ¶ 2). Thus, in Chang, there is no disclosure of database objects (or any equivalent entity) or associated management criteria with a database to manage database objects.

Second, the Examiner contends that Chang discloses collecting statistics relating to operation of a database at page 14 and at page 15, ¶ 2 and determining characteristics of the database objects based on the collected statistics at page 16, ¶ 4 and page 17, ¶ 1-3. (Office Action at pg. 2.) This is also an incorrect characterization of Chang. Chang does not collect statistics relating to the operation of a database and does not determine characteristics of the database based on the collected statistics. Instead, Chang discloses a monitoring agent specific to an application that monitors resources of interest to the application and the progress of the application. Chang discloses a resource scheduler that correlates the observed resource characteristics of the application to models stored in a performance database, which is not disclosed as being monitored and which is not disclosed as having statistics collected with respect to its operation. Chang then discloses a steering agent that reconfigures the application by listening to control messages and changing the configuration of the application. *See* Chang at page 16, ¶ 4 and page 17, ¶ 1-3. Thus, Chang fundamentally focuses on an application and determines resource characteristics of the application so the configuration of the application can be switched. Accordingly, Chang fails to disclose or fairly suggest collecting statistics relating

to the operation of a database and determining characteristics of database objects based on such collected statistics.

Third, the Examiner contends that Chang discloses determining actions to be performed on one or more database objects to modify the database objects based on management criteria and determined characteristics of the database objects at page 12, ¶ 1 and contends that Chang discloses modifying one or more database objects by performing actions on the database objects at page 12, ¶ 3. (Office Action at pg. 2.) This is incorrect because as noted previously Chang focuses on an application, monitors resources of interest for the application, and switches the configuration of the application. The disclosure of Chang at page 12, ¶¶ 1 and ¶ 3 merely confirms that the disclosure is directed to modifying the configuration of an application and not modifying database objects of a database.

Fourth, the Examiner contends that Chang discloses monitoring results of modifying the database objects at page 12, ¶ 2. (Office Action at page 2.) Fundamentally, Chang merely discloses at page 12, ¶ 2 continuously monitoring and controlling application requests for system resources. Thus, Chang does not even fairly suggest monitoring results of modifying database objects based on actions determined from collected statistics. Moreover, any monitoring disclosed at page 12, ¶ 2 in Chang cannot and does not relate to the later described (and later occurring) automatic adaptation at run-time to changes in CPU load and network bandwidth at page 12, ¶ 3. Thus, the Examiner's premise in the argument is not supported by how Chang describes his framework.

Fifth, the Examiner contends that Chang discloses reconfiguring the management criteria associated with the database based on the results of modifying the database objects at page 12 ¶ 8. (Office Action at page 2.) This is incorrect for the fundamental reason that Chang's disclosure is directed to an application and is not directed to a database as noted previously. Chang at page 12, ¶ 8 further solidifies this fundamental distinction between Assignee's claims and Chang's disclosure. Beginning at page 12, ¶ 8, for example, Chang discloses the structuring of the application related to the run-time adaptation system discussed. As explicitly discussed in Chang, the application requires a way to execute under alternate configurations. Thus, Chang does not even fairly suggest reconfiguring any criteria used to manage database objects of a

database after monitoring results of modifying those database objects with actions determined from collected statistics. Chang merely suggests executing an application under an alternate configuration.

In summary, Assignee's claims call for associating management criteria with a database to manage database objects (Chang discloses forms of information for an interface to a distributed application); Assignee's claims call for collecting statistics relating to operation of a database and determining characteristics of database objects based on collected statistics (Chang discloses a monitoring agent specific to an application that monitors resources of interest to the application and the progress of the application); Assignee's claims call for determining actions to be performed on database objects based on the management criteria and the determined characteristics and modifying the database objects by performing the actions (Chang discloses switching the configuration of resources of interest for a distributed application); Assignee's claims call for monitoring results of modifying the database objects (Chang discloses monitoring and controlling application requests for system resources); and Assignee's claims call for reconfiguring the management criteria associated with the database based on the results of modifying the database objects (Chang discloses executing an application under an alternate configuration). Consequently, Chang's disclosure fails to teach or fairly suggest each claimed element in as complete detail contained in Assignee's independent claims 1, 16, and 31. For at least these reasons, Chang does not anticipate Assignee's independent claims 1, 16, and 31, and Assignee respectfully requests allowance of all pending claims 1-4, 6, 8-10, 12-19, 21, 23-25, 27-34, 36, 38-40, and 42-45 in the next paper from the Office.

C. Fees

No fees are believed due at this time. The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application. Should any fees be due for any reason, the undersigned representative authorizes the Commissioner to charge any additional fees that may be required, or credit any overpayment, to Deposit Account No. 501922, referencing order no. 149-0046US.

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To facilitate the resolution of any issues or questions presented by this paper, Assignee respectfully requests that the Examiner directly contact the undersigned by phone to further the discussion, reconsideration, and allowance of the claims.

Respectfully submitted,

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Date

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